

**MRS**

# BULLETIN

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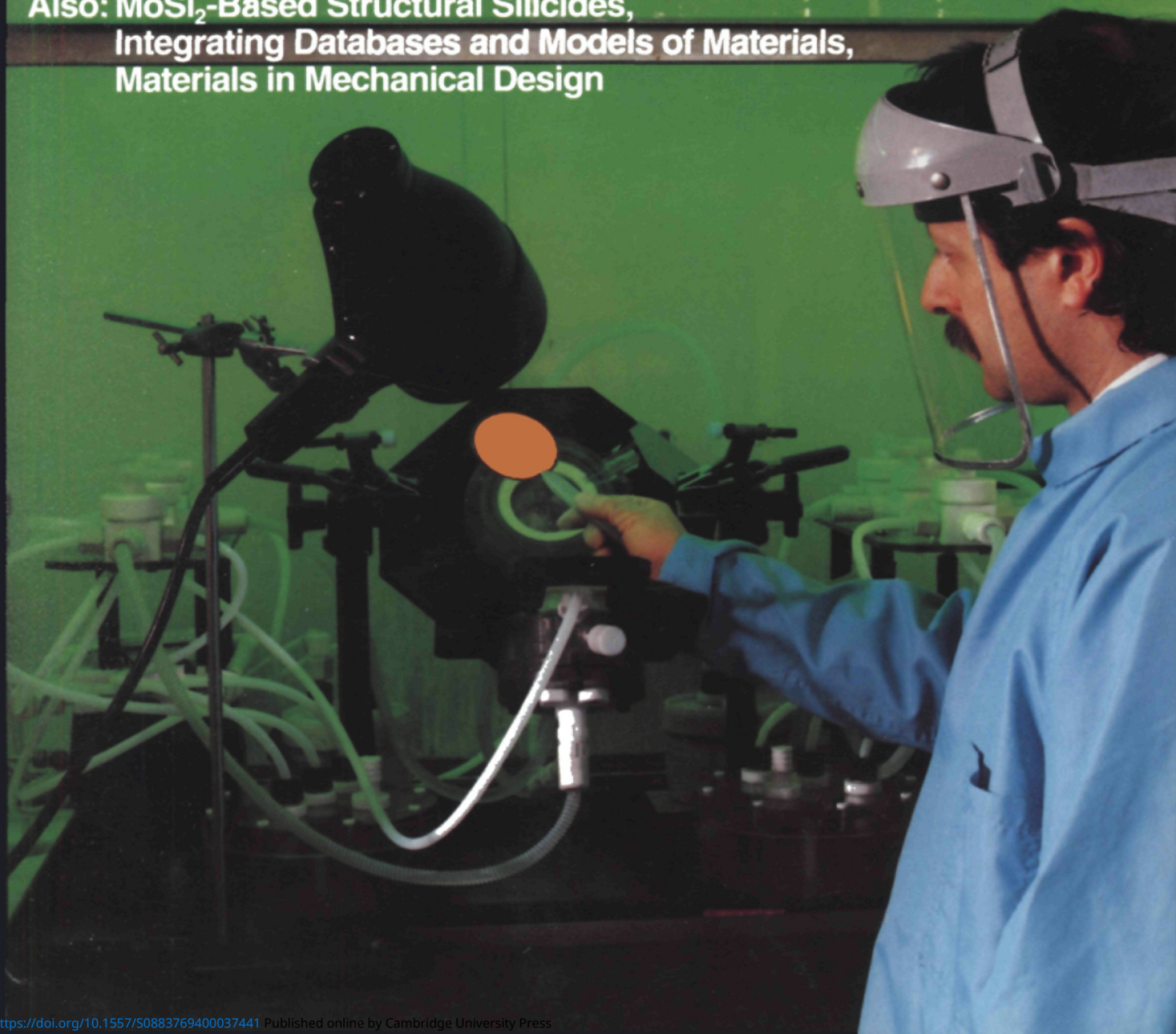
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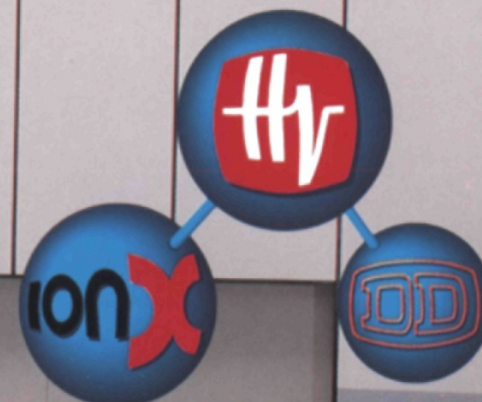
## Silicon-Based Optoelectronics

Also:  $\text{MoSi}_2$ -Based Structural Silicides,  
Integrating Databases and Models of Materials,  
Materials in Mechanical Design





# SUPERIOR PRODUCTS THROUGH JOINT TECHNOLOGY



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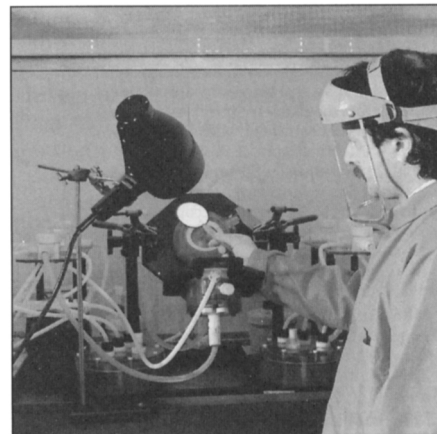
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**ON THE COVER:** A three-inch-diameter silicon wafer has been processed using the electrochemical equipment shown. Hydrofluoric acid has etched away ~ 80% of the silicon in a surface layer, leaving behind a forest of ~ 30 Å-wide "quantum wires." These crystalline silicon wires emit bright orange light under a uv lamp. For further details on this topic, see "Progress Toward Crystalline-Silicon-Based Light-Emitting Diodes" by L.T. Canham, starting on page 22.



## About the Materials Research Society

The Materials Research Society (MRS), a non-profit scientific association founded in 1973, promotes interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes nearly 11,000 scientists, engineers, and research managers from industrial, government, and university research laboratories in the United States and nearly 50 countries.

The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across the many technical fields touching materials development. MRS sponsors two major international annual meetings encompassing approximately 50 topical symposia, and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence, conducts short courses, and fosters technical interaction in local geographic regions through Sections and University Chapters.

MRS participates in the international arena of materials research through the International Union of Materials Research Societies (IUMRS). MRS is an affiliate of the American Institute of Physics.

MRS publishes symposium proceedings, *MRS Bulletin*, *Journal of Materials Research*, and other publications related to current research activities.

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